

-continued

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18

1. A nucleic acid molecule comprising:

at least one expression control sequence comprising a viral Internal Ribosomal Entry Site (IRES) element having a viral 5' untranslated region (5' UTR);

at least one coding region linked operatively to the at least one expression control sequence and encoding a peptide or a protein; and

at least one of multiple adenosines and multiple thymidines located upstream of the at least one expression control sequence.

2. The nucleic acid molecule of claim 1, wherein the viral IRES element is derived from at least one of Picornaviridae family, Togaviridae family, Dicistroviridae family, Flaviridae family, Retroviridae family and Herpesviridae family.

3. The nucleic acid molecule of claim 1, wherein the viral IRES element is derived from at least one of coxsackie B

virus, Cricket paralysis virus, Japanese Encephalitis virus, Encephalomyocarditis virus and Sindbis virus.

4. The nucleic acid molecule of claim 1, further comprising a viral 3' untranslated region (3' UTR) located downstream of the 5' UTR, and wherein the at least one coding region is located between the 5' UTR and the 3' UTR.

5. The nucleic acid molecule of claim 1, wherein the at least one coding region encodes at least one of antigen, antigen's fragments, antigen's variants, antigen's derivatives, peptides for treating disease and proteins for treating disease.

6. The nucleic acid molecule of claim 1, wherein the at least one expression control sequence comprises a first expression control sequence having a first IRES element and a second expression control sequence located downstream of the first expression control sequence and having a second IRES element.